# AX-TV

## User manual



HDMI video decoder

# INDEX

# 1 Installation and set up

AX-TV is a video decoder used to display live video from all kind of AXIS IP cameras, ONVIF cameras (please consult the supported camera's model on the Appendix2 table) and VX units.

Connect the AX-TV to the TV or screen through its HDMI output you could watch your cameras via WIFI or through your LAN connection.

For the installation of an AX-TV unit check the package contents and follow the enclosed instructions.

**Package contents**

Open the packaging and check that the following items are included;

- AX-TV Unit
- HDMI cable
- Network cable
- Remote control and batteries
- Power supply

**Installation**

Connect the unit to the power supply, the HDMI video cable to the screen/TV and the network cable to the LAN where the cameras are located.
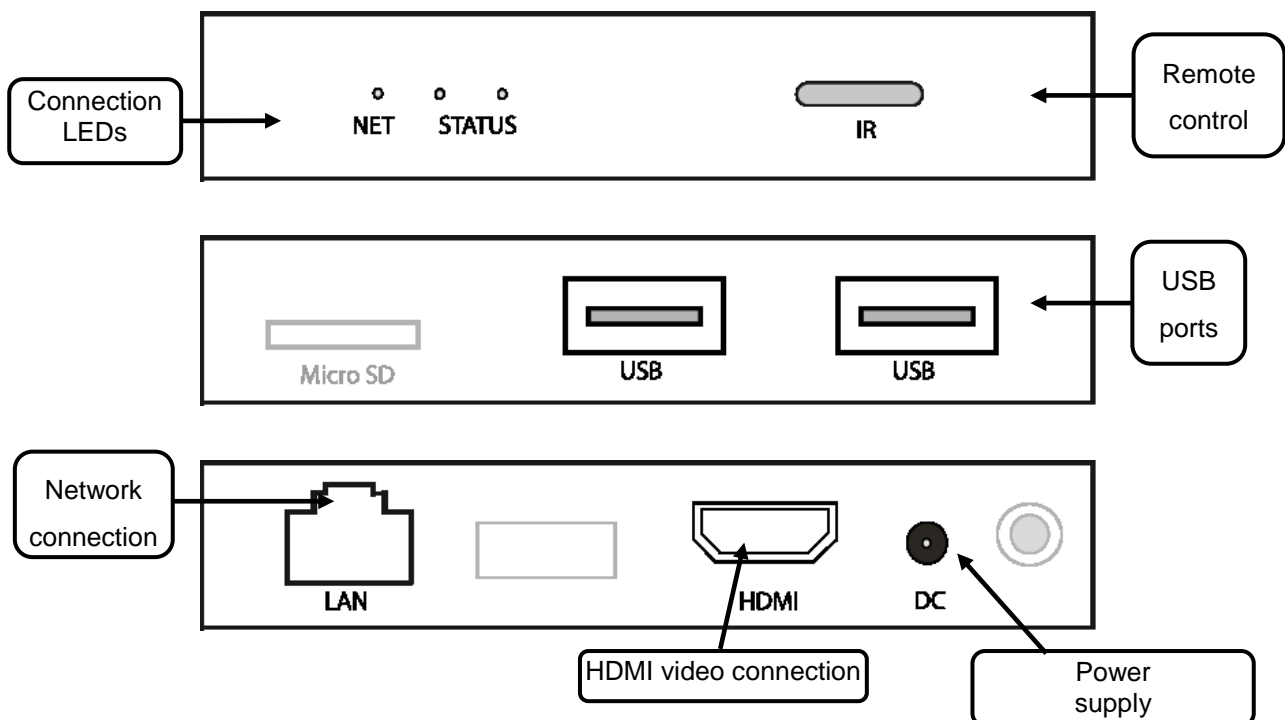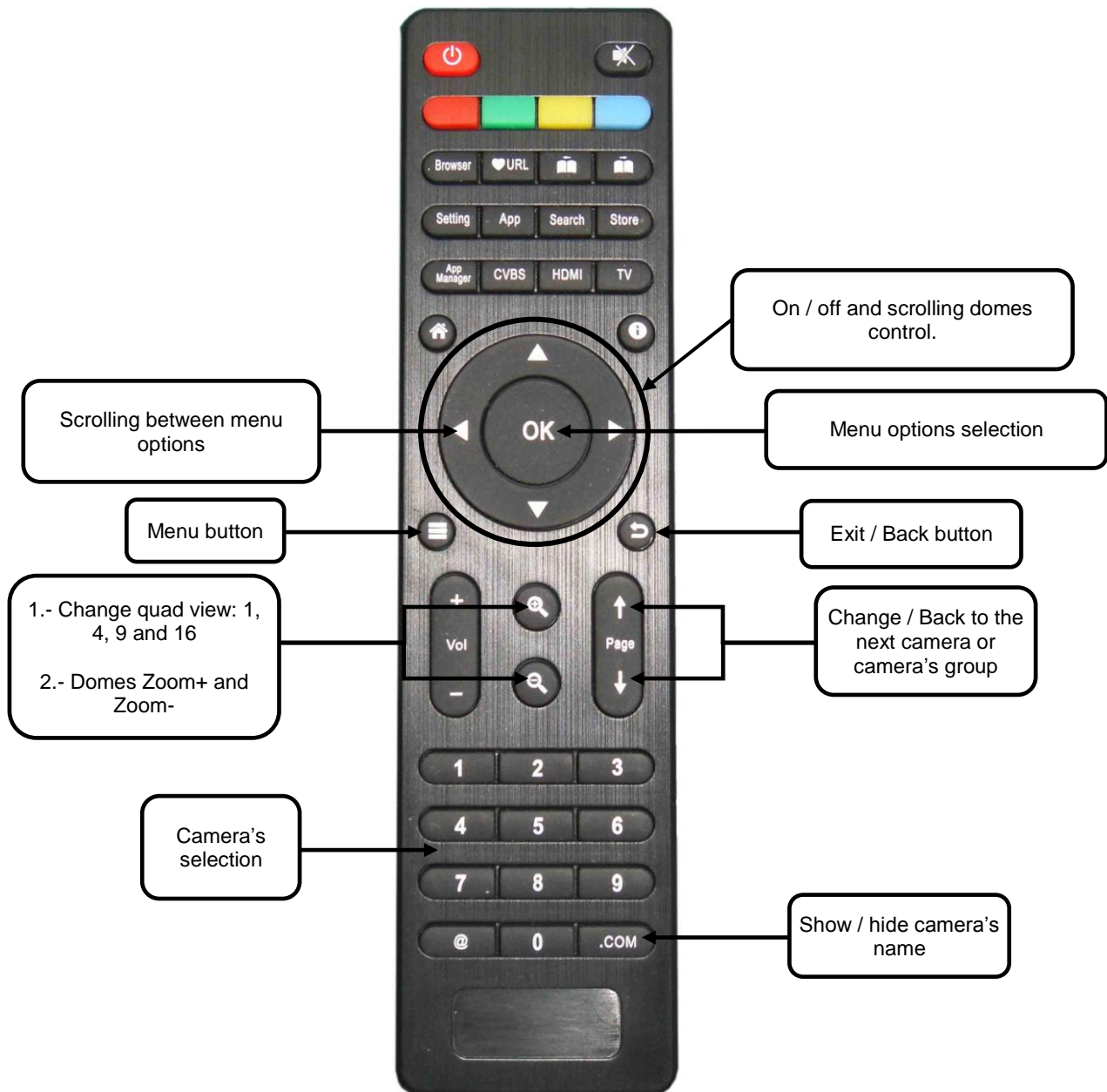


**Fig. 1- AX-TV sides view**

**Start**

The start-up configuration is controlled from the TV screen, by selecting the HDMI connection corresponding to the AX-TV.

If you have a LAN connection and your router has DHCP the unit works automatically, without changing the configuration.

Don't place the unit in a closed site, it is necessary to leave a space for the ventilation.

**Remote control**

The unit has a remote control to configure and use the AX-TV, these are the main functions:



On / off and scrolling domes control.

Scrolling between menu options

Menu options selection

Menu button

Exit / Back button

1.- Change quad view: 1, 4, 9 and 16

2.- Domes Zoom+ and Zoom-

Change / Back to the next camera or camera's group

Camera's selection

Show / hide camera's name

# 2  Settings

When the unit starts the screen shows the Visual Tools logo, press the [Menu ] button to show all the available options.

Note: Use the arrow buttons [< ^ >] to scroll through options, the [OK] button to select an option and the [Exit ] button to return.

To show the virtual keyboard, select a text box and press [OK]. Select the letter key with the arrow buttons and press [OK] to choose. Press [Exit ] to exit the virtual keyboard.

You can use a mouse and a USB keyboard connected to the unit's front USB connectors to enter faster the configuration data. Bear in mind that the keyboard is exclusively QWERTY.

**Main menu**

Press the [Menu ] button to show the menu options. The options available are::

- Cameras: lists the camera names and allows selecting one of them.
- Settings: shows the settings and allows editing of them.
- Sequence: shows the sequence view. The cameras are shown one by one cyclically.
- Help: shows a quick help guide.
- About: shows the version and contact info.

Press [Exit ] button to exit the menu.

**Configuration menu**

In the configuration menu you can modify the following parameters:
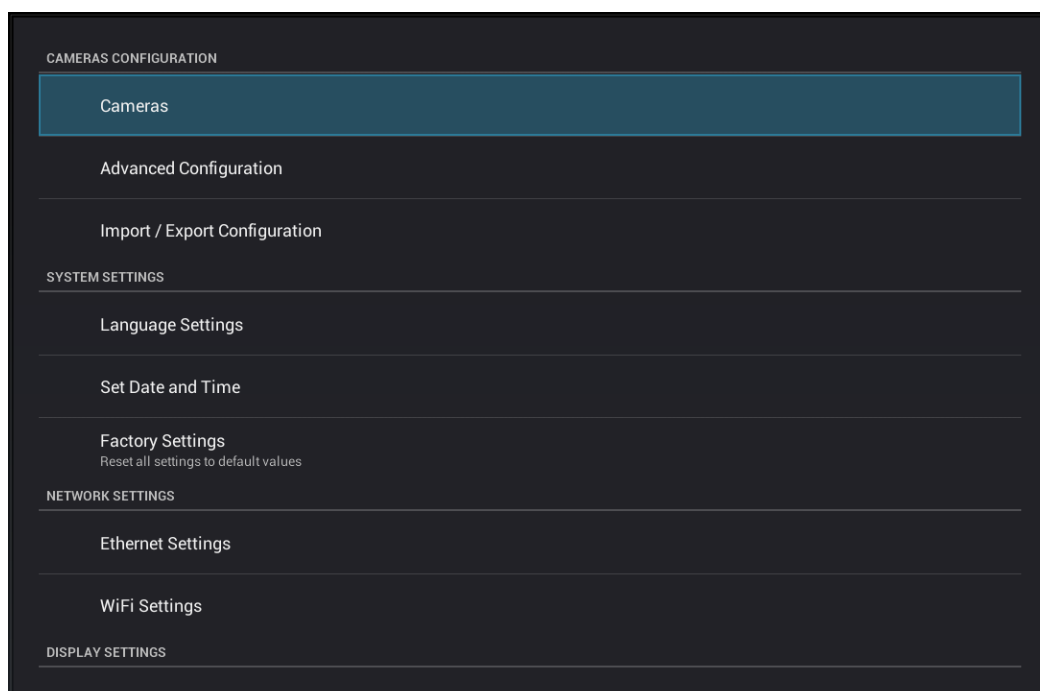
Network settings

You need to configure the network parameters to connect to the cameras and VX units. Choose the connection you prefer, either Ethernet or WIFI, and make sure that the corresponding checkbox is selected or the communications will not be active.

- WIFI configuration

  Menu >> Settings >> Network settings >> WIFI settings

  Select the WIFI network and enter the corresponding password. When the connection is active you will see a connected label under the selected name's network.

- Ethernet configuration

  Menu >> Settings >> Network settings >> Ethernet settings

  Connect the local network cable. The DHCP protocol automatically configures the network parameters. If you want to edit the network parameters select the Ethernet settings option.

  Note: the MAC address that appears in the lower part of the unit corresponds to the Ethernet connection.

Camera's and VX connection

Menu >> Settings >> AXIS cameras configuration >> AXIS cameras

In this screen are defined the cameras used by the AX-TV.

The unit has a sample configuration that you can change, select the **Delete All** button and press it, this option will delete the entire sample IP/URL and allow you to start with a blank configuration, with the default values.

The default values include the master credentials which all the cameras can use if the same username and password is set on all of them. If a camera has a different password or username, you have to uncheck this option and manually enter the username and password corresponding to that camera.

One of the default values is the connection port. By default this is set to port 80 and should be changed only if necessary.

You can introduce manually the **IP/URL** address of the camera or VX unit you want to display, or select the cameras through the auto-detection tool. Press the **Autodetect Cameras/ Autodetect ONVIF cameras** button and all the cameras installed on the network will be displayed on a window.

| Refresh | Click on a camera to view with its details, and then decide wether to add it or not | | Back |
|---|---|---|---|
| **IP** | **Port** | **Model** | **S/N** |
| 192.168.1.31 | 80 | AXIS Q1755 | 00408C94327B |
| 192.168.1.32 | 80 | AXIS P3346 | 00408CB985EC |
| 192.168.1.33 | 80 | AXIS M1054 | 00408CD5E6C0 |
| 192.168.1.64 | 80 | AXIS M3006 | 00408CF17AB1 |
| 192.168.3.43 | 80 | AXIS M3204 | 00408CD5BFB8 |
| 192.168.3.88 | 80 | AXIS M1103 | 00408CB493F0 |
| 192.168.3.200 | 80 | AXIS M3204 | 00408CD5BFB7 |
| 192.168.3.202 | 80 | AXIS M1011-W | 00408C99FAA6 |

Press on the camera to see the details, in this window you can define the connection parameters, the aspect, the order and the name of the camera you wanted to add.



The AXIS cameras can have several extra views associated; likewise the VX units have several cameras connected. To select a camera or extra view you want to display, you have to specify the device number into the View column.



The camera's aspect-ratio is adjusted automatically when the default value is fixed in auto. This way the AX-TV shows the best resolution minor or equal to the camera's viewer.

The Monitor option shows the default video output aspect in the TV screen, by default is 16:9, in case most of the cameras have a 4:3 resolution the best option it's to modify the monitor output to display them correctly.

You can change the camera's name in the **Name** section; it can appear overlaid on the video by selecting the **Show Name** option.

You can visualize the cameras on a sequence, select the cameras you wanted to add to the sequence and the display time of each one (5, 8, 12 and 20 seconds).

Choose the codec to visualize the camera, H264 or JPEG depending on their features.

The AX-TV can visualize ONVIF cameras, you can autodetect them or enter the camera data selecting the ONVIF option on the cameras configuration screen. Select if the camera modifies the video profile data to adjust it to the AX-TV features or use the video stream as the camera provides.

Press the [Exit �] button and wait until the connection to the cameras is checked, if an error occurs re-check the cameras configuration.

Advanced configuration
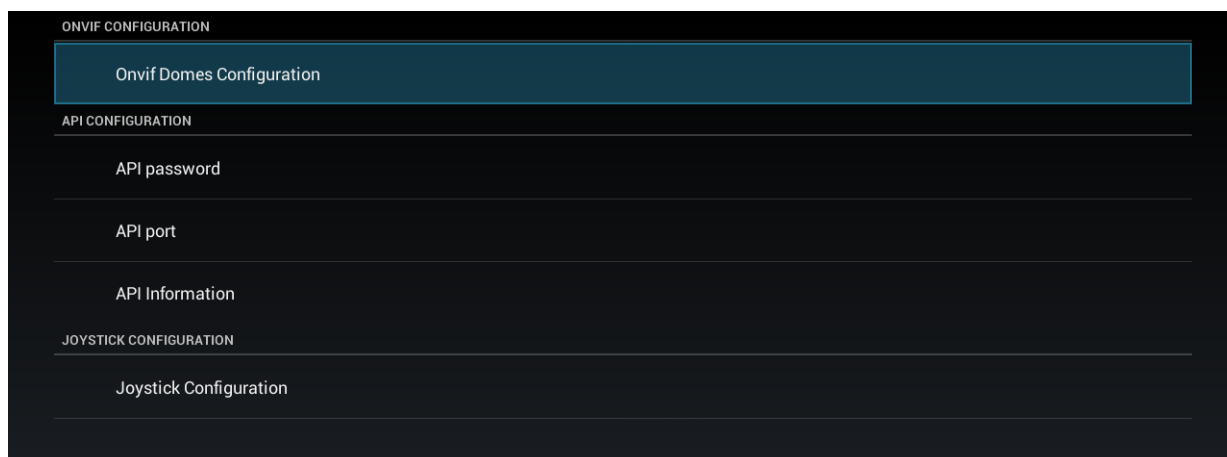


- ONVIF dome configuration

  The ONVIF domes have special features that can require a configuration change. In this section you can modify the horizontal speed, vertical speed and the zoom speed.

- API Configuration

  The API is a programming interface to communicate software parts, as the AX-TV with the Supervisor X or the web interface use. To make this communication effective you must set a password and a communication port.

  The password by default is **vtapi** and the port **8080**. You can modify the password and the port into the API's configuration menu.

  Into the API Information option you can find the current IP AX-TV address, it's needed to configure the Supervisor X connection and the web interface.

- Joystick Configuration

  The AX-TV has the possibility to be commanded through a USB joystick Videotec DCZ. On this screen you can see the joystick status (connected or not). For further information please consult the Appendix 3.

Import/export configuration

This option makes easy the camera's configuration export and import, between AX-TV units.
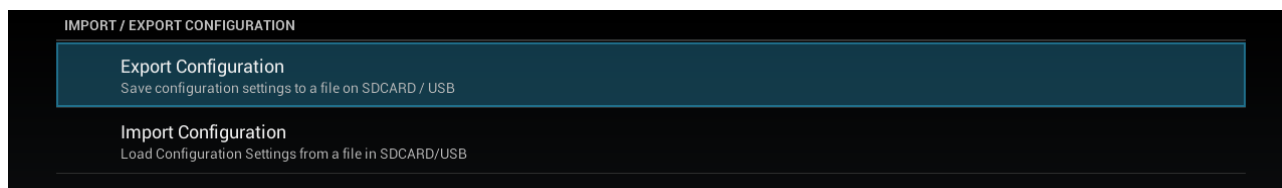


You can export the configuration to a SDCARD or a USB, in case you have connected both types of devices, the USB has priority.

Select **Export configuration** to start the process, an **axtv.xml** file is exported to the external memory device root. In case there is a file with the same name it will be replaced.

To import a configuration select the **Import configuration** option, the AX-TV will search a file with the same name into the root of the connected device.

System settings

In this section you can change the language and apply the Factory settings, this option returns the AX-TV unit to its factory default settings.

Display settings

In the display screen you can adjust the horizontal and vertical position on your TV screen via the arrow buttons [< ^ >] and the size and the image centering. . Use this option only if necessary.

# 3 Unit performance

**Cameras**

Use the numeric buttons [from 1 to 16] to select a single camera, using [Zoom-in ⊕ ] you could change to quad view 2x2 , or a 9 camera view (3x3) or 16 (4x4) depending on the number of AXIS cameras connected.

Press [Zoom-out ⊖ ] to change to the previous view.

Press [Page ↑ ] to change to the next camera or camera's group when you are into the quad view and [Page ↓ ] to return back to the previous camera or camera's group.

Press the [.COM] button to show or hide the camera's name in the image.

To exit the carousel press any button.

When connecting the unit will display the last view selected.

**Dome**

When a camera is a dome the AX-TV identifies it displaying the dome icon on the screen.

To active the dome control press the OK button and the icon will change its appearance. Use the zoom keys [Zoom-in ⊕ y Zoom-out ⊖ ] to approach or distance the image, and the arrow keys to move the camera in any direction. To disable the dome control press OK again.

You can also use the Videotec DCZ joystick and the web/mobile interface to control the domes.

**Web interface**

The AX-TV can be used and configured from a web interface. The connection can be established from a PC, a tablet, a mobile, etc…

You need the following data to connect, there are available in the advanced configuration on the API configuration section:

- AX-TV IP address (API information)
- HTTP port (API port)
- API user and password (API password)

Enter the IP address and the port eg: 192.168.20.20:8080, a new window is open where you have to enter the connection user and password; next it will open a window with the AX-TV controls.

This windows works as the AX-TV remote control, you can use it from any mobile device with data connection.

**Cameras selection** → Cameras ▼

**Camera configuration** ← Setup

**On / off and scrolling domes control.**

**Sequence** → seqnc

**Show / hide camera name** → .com text

zoom / page

**Change / Back to the next camera or camera's group**

1.- Change quad view: 1, 4, 9 and 16

2.- Domes Zoom+ and Zoom-
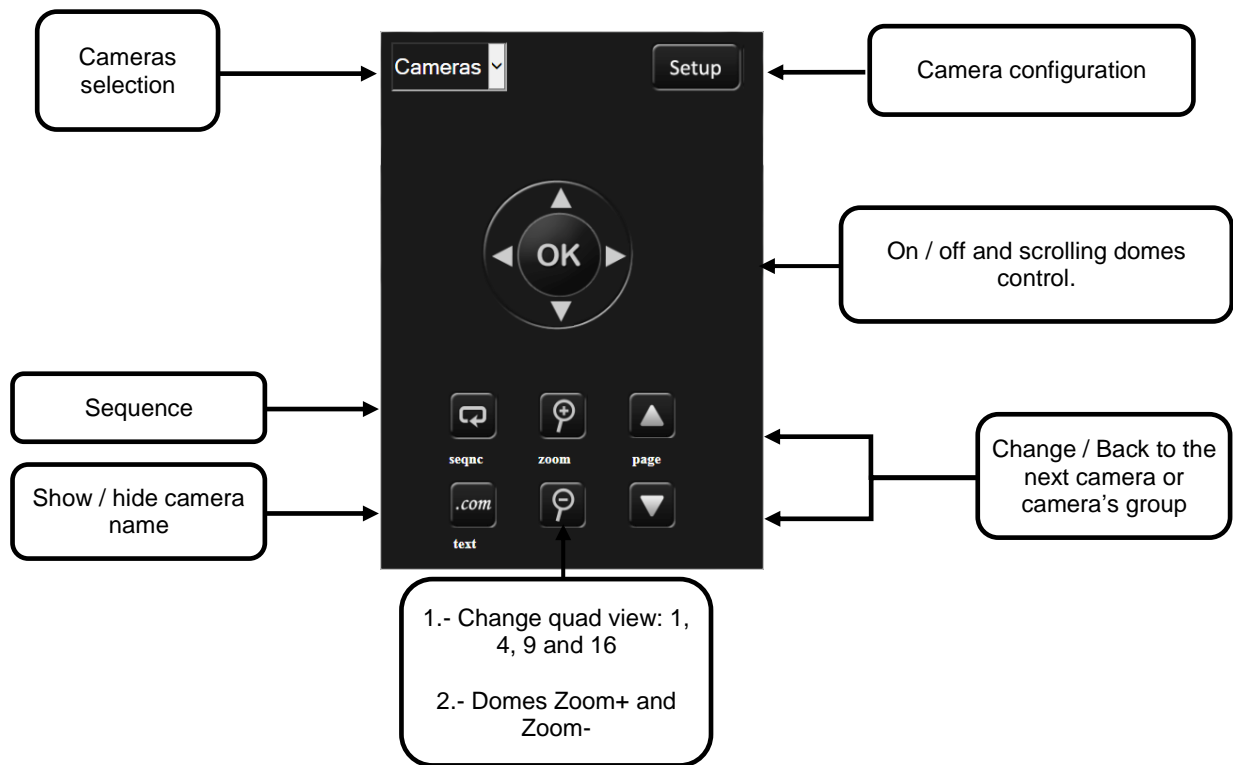
## Updates

The unit has a firmware update system which works as follows;

1.- Download the update .zip file.

2.- Unzip the file and check it has the update .IMG file and the instructions txt files.

3.- Copy the .IMG file on the USB root .

4. - The AX-TV unit needs to be connected to the TV to run this process, unplug the USB memory from your computer and connect it to the AX-TV.

5. – Remove the AX-TV power supply, the firmware upgrade button is underneath the unit and is marked "upgrade" on the case. Place the unit sideways or face down, with a sharp object press the upgrade button.

6. – Re connect the power supply, hold down the button for a few seconds. The on screen menu will now include a new update option. With the remote control arrow buttons select the Apply Update option.

7. - In the following menu choose the Udisc option and select the file with the upgrade you want to apply, press the remote control OK button to run the upgrade. The unit will reboot, check on your TV that the AX-TV starts properly.

For any questions or concerns about this process please contact the support department: **support@visual-tools.com.**

## Factory image

The unit has an image of the factory version, to access to this version, unplug the power and press the upgrade button placed on the lower part of the unit.

Plug the power again and release the upgrade button. In the menu appears the *Aply Update* section, in the following menu select the *media* option, you can find in this folder the image file: *default_recovery.img*, select it and press OK to run it.

# Appendix 1: Changing AXIS cameras settings

The Ax-Tv unit will request a video stream from the camera as necessary in each case (resolution, compression, etc.) for optimum operation as digital cameras (VX units) as IP cameras and IP ONVIF cameras.

You have the option to create profiles to adjust the cameras appearance, resolution, compression and image size, only for native AXIS cameras (without ONVIF protocol active), if you deem it necessary to modify the AXIS cameras operation.

You can create up to four profiles that correspond to the four different views that are available on the AX-TV. The profile name is AX-TV x where x correspond to the view type that the Ax-Tv provides (1, 4, 9 o 16 cameras).

To create these profiles you have to access the IP camera **Setup** menu, in the list on the left select **Video & Audio** and then, select **Stream Profiles**.

In this window are the camera list profiles, press the **Add** button to create a new profile.

1. - Into the Image section insert the camera name, AX-TV x and select into **Video Encoding** section the **MPEG** option.

2. - In the Image Appearance section select the resolution. Shown below are the maximum values that can be selected for each profile.

|  | 16:9 | 4:3 |
|---|---|---|
| AX-TV1 | 1280 x 720 | 800 x 600 |
| AX-TV4 | 640 x 360 | 480 x 360 |
| AX-TV9 | 480 x 270 | 320 x 240 |
| AX-TV16 | 320 x 180 | 240 x 180 |

Into this section you can increase the compression if necessary.

3. - In the **Video Stream** section you can configure the maximum frame rate via two options, select unlimited or set a limit (maximum is 30 images/frames per second.

4. - In the MJPEG tab you can specify the maximum frame size or select the size by default.

# Appendix 3: ONVIF supported cameras

ONVIF supported cameras for this AX-TV version:

| ONVIF AXIS cameras |
| --- |
| Acti B47 |
| Ademco 068 |
| Avigilon 2.0W-H3PTZ-DP20 |
| D-Link DCS-2132LB1 |
| Hikvision DS-2CD2612F-I |
| Hikvision DS-2CD2412F-IW |
| Safire IPC-CV012FHD-H |
| Samsung SNB-6010 |
| Samsung SND-6084 |
| Samsung SNV-6013 |
| Vivotek IP8173H |

Other camera models can operate, but there must be tested before to validate its correct operation.

# Appendix 3: Comandos de uso del joystick Videotec DCZ

Commands for the Videotec DCZ working with an AX-TV
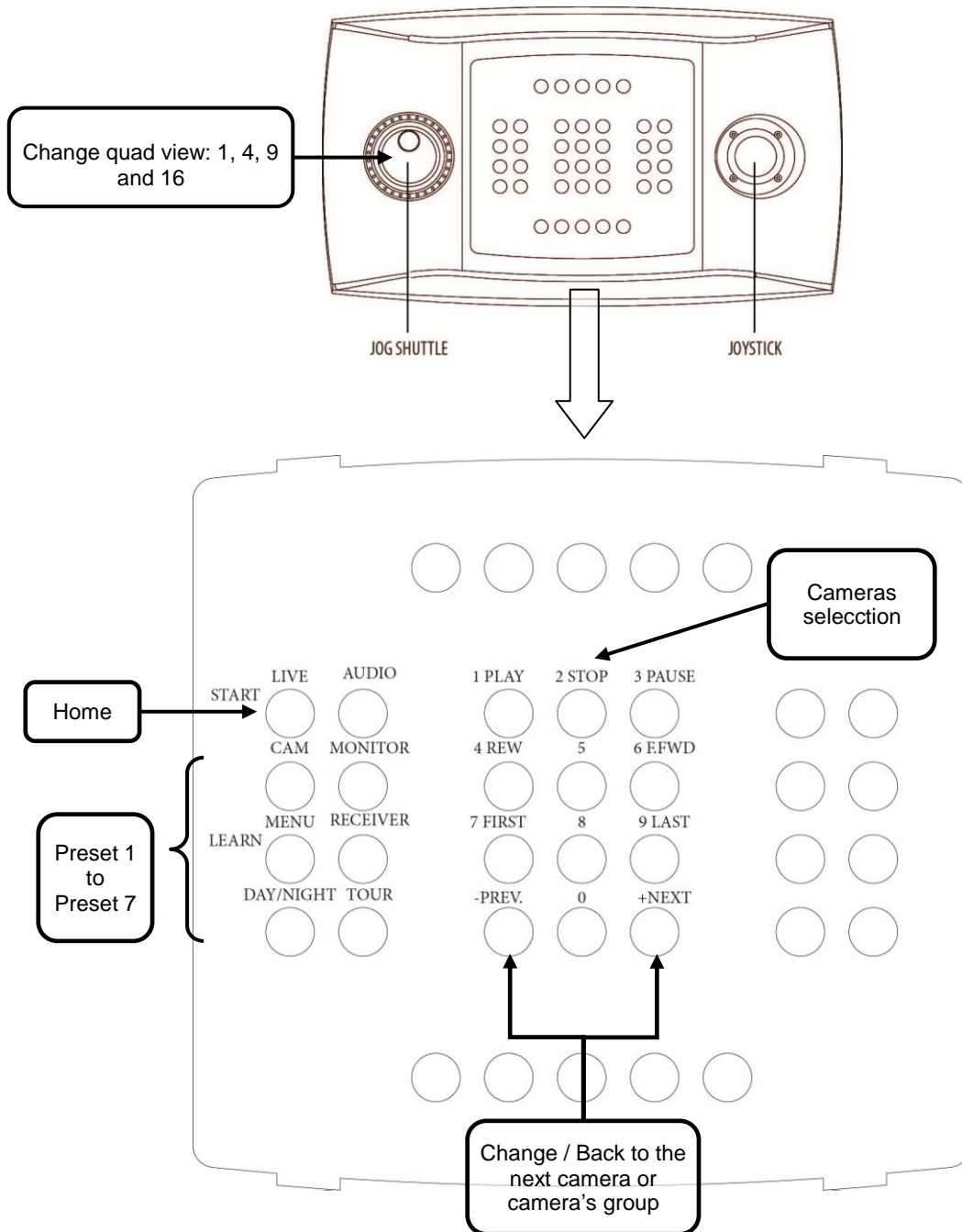


To use the joystick, connect it to the AX-TV through a USB port and restart the AX-TV.

# Appendix 4: Technical specifications

| | |
|---|---|
| MODEL: | HDMI video decoder |
| RESOLUTION: | 1280 x 720 |
| COMUNICATION: | Ethernet RJ45 10/100M adapter. Built in 802. 11 b/g/n WiFi inside. |
| VIDEO OUTPUT: | 1 HDMI 1.3 output |
| CAMERAS | AXIS cameras, VX units and ONVIF H264 and JPEG cameras |
| REMOTE CONTROL | Infrared remote control |
| DISPLAY: | Cameras one by one or quads 2x2, 3x3 and 4x4 |
| PERFORMANCE | Default refresh rate 16 fps (Q1x1) and 15 fps (Q4x4) Up to 16 cameras in H264 |
| POWER: | External power supply 110-240, power consumption DC 5V 2A |
| PHYSICAL DATA: | Width: 100 mm x High: 17mm x Depth: 100 mm. |

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